EPS comments and responses as of 1/15/2013

#	comment summary	sources	Commerce response
SV: Comments regarding the CCCT survey (RCW 80.80.050)			
SV-01	The CO2 emission factor used in the EPS calculator is incorrect and should be 118.86 and not 116.98 lb./MMBtu.	A19 p.12	This comment prompted a review by Commerce of published emission factors. Commerce finds that the most appropriate factor is that presented by the Washington Department of Ecology in Washington Administrative Code 173-407 for compliance reporting. Commerce has changed the survey emission factor from 117.0 lb./MWh to 117.6 lb./MWh.
SV-02	Brochure heat rate values are too optimistic and do not account for parasitic load and other operating factors and therefore should not be used in the EPS calculator.	A19 p.13, A20 p.3.	The EPS calculator starts with reference, "new and clean" heat rate values published annually by Gas Turbine World (GTW) and which are provided in a public and transparent manner. Commerce then goes through a series of steps that adjust each reference heat rate to derive an operational heat rate, which can then be converted into an operational emission factor. The adjustment factors are described in detail in the legislative report accompanying the survey, and are as follows: gross to net output, ageing (reflecting a middle age CCCT), addition of duct firing capacity, start/stop, partial load, climate, inlet and condenser cooling reductions. In total these adjustment factors increase the average CCCT heat rate in the calculator by 21.5 percent. The adjustment factors were extensively discussed by the Technical subgroup, and included input from the subgroup and independent research by Commerce and Ecology. Commerce and other stakeholders believe that the calculator is conservative as the evidence by the comparison of reported versus calculated emissions for existing CCCTs: calculated emissions 944 lb./MWh versus reported emissions of 870 lb./MWh. When New York state established its EPS of 925 lb./MWh they went through a similar process to arrive at an operational emission factor. No action.
SV-03	Commerce fails to account for backup fuel	A19 p.13	Most of the existing CCCTs do not use oil as a backup fuel. A minority of proposed CCCTs in the region will use oil backup fuel. The Fuel Mix Disclosure report that Commerce produces annually indicates that oil is the fuel for only a de minimis portion of CCCT generation. For example, the 2011 Fuel Mix Disclosure report indicates that the Ferndale plant used petroleum fuels for less than 0.01% of generation, which would increase the EPS by less than 0.1 lb/MWh. No action.
SV-04	The proposed EPS value is lenient and easily achievable under realistic operating conditions by modern plants, and would have minimal reliability or cost impacts.	A17 p.3, A18 p.1	Comment acknowledged.
SV-05	The temperature, aging penalty, and duct firing adjustments to the EPS are overly generous.	A17 p.3 p.4	Commerce staff was convinced by arguments made by stakeholders that the survey (EPS calculator) should not use average adjustment factors, but rather should use values towards the high ends of their distributions. Since compliance is evaluated on an annual basis, this protects utilities and plant operators from intermittent non-compliance due to late years in the plant maintenance cycle, or challenging operating conditions related to weather. No action.
SV-06	The Emission Performance Standard Draft Emission Calculator to be rigorous, comprehensive and fair.	A18 p.1	Comment acknowledged.
SV-08	The Trans Alta BHP is a 4x1 configuration. A 4x1 configuration should be included in the survey since one exists in Washington.	A20 p. 2 B03 p.3	4x1 configurations are relatively rare, and generally adding gas turbines (GTs) to a power plant (4 GTs in a 4x1 config.) increases the overall plant efficiency slightly, depending on how the plant is run. A General Electric reference document shows the same heat rate for 2x1 and 4x1 configurations built around MS6001B GTs, which are small GTs like the ones used at BHP. No action.

#	comment summary	sources	Commerce response
SV-09	The Department has chosen to perform a survey of the literature focusing primarily on data of available turbines from the Gas Turbine World handbook. It is not clear that the handbook and the format of the survey address any and all turbines "purchased in the United States" as required by the law.	A20 p.3	RCW 80.80.050 requires Commerce to develop "a survey of new combined-cycle natural gas thermal electric generation turbines commercially available and offered for sale by manufacturers and purchased in the United States." The models listed in Gas Turbine World reasonably cover the gamut of those commercially available; Commerce conducted a secondary screen of purchasing data to ensure that only those models actually purchased in the United States in the last five years were included in the survey. A more complete description of the rationale and methodology is offered in the legislative report describing the survey. No action.
SV-11	While the legal requirement for a survey is clear, the law does not specify what type of survey was anticipated by the legislature. An actual questionnaire answered by turbine manufacturers might result in completely different GHG emission results.	A20 p.3	Commerce, in collaboration with stakeholders, chose the survey methodology it believed fit the purpose of the law most closely. A questionnaire would not provide performance data calibrated among the respondents; would omit performance data relevant to non-respondents; and would not be representative of turbines "commercially available and offered for sale by manufacturers and purchased in the United States" per the requirement of the law. No action.
SV-12	Commerce claims that there are two CCCTs that exceed the current EPS, but whose status will not change due to the proposed update. This is incorrect. Emissions at Trans Alta's Big Hannaford Project (BHP) have averaged between 1150 – 1300 lb/MWh over the last several years. However this does not represent baseload operation – typically BHP operates as a peaking plant. A plant like BHP using GE LM 6000PC gas turbines could operate at close to 1050 lb/MWh in baseload operation and therefore should be able to meet the current EPS. Lowering the EPS below 1100 will directly impact the ability of BHP to comply with the EPS standard as a baseload plant and eliminate the ability of Trans Alta to enter into long-term contracts.	B03 p.3	The EPS is a performance standard and compliance is assessed by actual annual GHG emission and electricity generation data and not a hypotherical baseload operation value. An option for Trans Alta is to change the air permits for the BHP from baseload operation (greater than 60% operational hours) to peak operation (less than 60% operational hours).
SV-13	The Gross Clean Heat Rate for the low NOx LM6000PF is reported in the Gas Turbine World (GTW) 2012 Handbook at 6408 Btu/kWh is higher than the standard LM6000PF value of 6365 Btu/kWh that is used in the calculator. If a new unit would be installed in Washington State, the unit would be the low NOx model in order to meet the low emissions required under any new source air permit.	B03 p.4	Commerce will use the low NOx version in the EPS Survey.
SV-14	General Electric currently offers the LM6000PC based CCCT (the same type of turbine used at the Big Hanaford facility) and it should be included in the Survey along with the LM6000PF CCCT.	B03 p.4	Commerce included a representative sampling of new CCCTs in its Survey. The sampling was guided by a review of recently purchased CCCTs (using GTW reports). This review indicated that aero derivative turbine based CCCTs represented only 3 percent of recent CCCT purchases. The current make up of the Survey already over-represents this class of CCCT and consequently Commerce will not add another aero derivative CCCT to the Survey.
SV-15	Commerce included CCCT models where no actual operational data is available, based on their interpretation of "new." For example, Commerce included the Siemens SGT6-8000H 2S3 turbine. This model is "commercially available" and has been sold in the United States but currently there are no units in commercial operation in the United States, and therefore no operational data. For this reason Commerce should exclude this CCCT from the Survey.	B05 p.5	Determining which CCCT models that should be included in the EPS Survey was a challenging issue. The rule that Commerce applied is that to be included in the Survey a CCCT had to be listed in the GTW Handbook and had to have been purchased by a utility and be either installed or in the process of being installed in the U.S. during 2007 – 12 (July 2012). As noted in the comment the SGT6-8000H 2S is available, and has been purchased is being installed at two sites in the U.S. This particular model (a 60 hertz version) has been extensively tested by Siemens and 50 hertz versions have been in operation in other countries, so some operational information is available. Commerce intends to leave one version of the Siemens H class based CCCT in the EPS Survey.
SV-16	The Alstom KN24-4 model listed in the EPS Survey has a North American installation, but has not been installed in the U.S.	B06 p.5	Commerce will remove this CCCT from the Survey.

#	comment summary	sources	Commerce response
SV-17	The EPS Survey includes the Mitsubishi M501G class CCCT, but not the newer derivative Mitsubishi M501GAC CCCT.	B06	When Commerce developed the initial Survey list in February 2012 the GAC version of the G class CCCT was not listed in the 2011 GTW Handbook. Recent reports indicate that both the M501G and GAC based CCCTs have been sold but that the GAC version had not been installed or shipped by mid-2012. Commerce will include just the G variant in the Survey
SV-18	The EPS Survey should include all new designs that are commercially available and that have been sold in the United States, which would include the Mitsubishi J class CCCT and the GE 7FA 0.5 based CCCT.	B06	The Mitsubishi J class and GE 7FA 0.5 based CCCTs have been announced and interested entities have taken options to buy or have made down payments on these two CCCT designs. These CCCTs were not listed in the 2011 GTW Handbook that Commerce utilized when the EPS Survey process began about nine months ago. Neither CCCT had been installed in the U.S. or was in the process of being installed during the development of the Survey earlier this year. Research by Commerce indicates that Mitsubishi and GE just completed testing of these two new CCCT models this year, and that initial installations may not occur until 2014. For these reasons the Mitsubishi J class and GE 7FA 0.5 based CCCTs were not included in the EPS Survey. However, they will almost certainly be included in the next EPS update.
SV-19	Small CCCTs units are rare and will not likely be constructed in Washington. These small units are not representative of new base load CCCT generation. The EPS Survey over represents small CCCTs with six CCCTs of less than 171 MW capacity out of a total of nineteen total CCCTs Surveyed. The GTW handbook list of Project Orders and Installations for 2007-10 showed only one base load CCCT of similar capacity, a 188 MW facility, being purchased and installed. The over representation of small less efficient CCCTs skews the Survey overall average emission rate to a higher value. Commerce should reduce the number of small CCCTs in the Survey.	B06	Commerce has re-evaluated the GTW list of Project Orders and Installations and agrees that very few small CCCTs were purchased by utilties for baseload operation during 2004-10, and that they are over represented in the EPS Survey. Accordingly Commerce will remove _____ from the Survey.
SV-20	Rather than focusing on new designs and technology, the Survey developed by Commerce included turbines that were designed as early as 1977. Only three of the units in the Survey can be considered representative of new base load CCCTs. The preponderance of older CCCT designs and the lack of a weighting factor skew the Survey overall average emission rate to a higher value.	B06	Commerce notes that these older CCCTs have generally gone through several updates during the intervening years and that the design dates in the Survey represents the initial announcement of that particular class of CCCT which can precede the initial operation date by several years. Commerce also considers these older CCCT designs "new" in the sense that they were newly ordered and/or installed during 2004-10. Upon review Commerce does agrees that the older and smaller CCCTs are over represented in the Survey and will reduce their contribution to the overall average emission rate calculated by the Survey.
SV-21	Commerce should weight the CCCTs in the Survey by their generation capacity. This will reduce the contribution of older and smaller CCCTs.	B06	The original language of RCW 80.80.050 suggests a simple average of the individual CCCT emission rates in the Survey. There are a number of ways to arrive at an average emission rate, but Commerce believes at this time the simple average is currently the best approach. Removal of several of the older and smaller CCCTs as a result of the two previous comments reduces the contribution from these subsets of CCCTs.
SV-22	The establishment of a single standard based on the average performance of large and small base load CCCTs would preclude the use of smaller CCCTs and at the same time lead to an EPS that is too lenient for larger designs. Commerce should consider a stratified survey and EPS that treats small and large designs separately.	B06	Early in the rulemaking process Commerce did suggest establishing an EPS for small CCCTs and an EPS for larger CCCTs. Several stakeholders objected to this approach and it was not pursued.

#	comment summary	sources	Commerce response
SV-23	Commerce incorporated a factor of two percent that is intended to correct the new and clean ratings from the manufacturers from a gross emissions basis to a net emissions basis. However, as set out in the GTW Handbook and vendor sites, manufacturer ratings are ordinarily provided on a plant net generation basis that includes inlet and outlet losses. Accordingly, there is no basis for the system losses adjustment used by Commerce.	B06	Commerce's reading of the GTW Handbook revealed two important pieces of information on whether the output and efficiency values are reported on a net or gross basis. First, it is clearly stated that not all power plant parasitic losses are accounted for in the GTW handbook values. Losses due to emission control equipment, some onsite auxiliary equipment, and transformers are not included. Second, GTW points that as of late some of the turbine manufacturers, to improve their published output and efficiency values, have altered their heat rate values so they are now actually much closer to gross output values. Considering these two factors and after discussion in the Technical Workgroup, Commerce determined a 2 percent adjustment factor was reasonable.
SV-24	Commerce should have included positive adjustments for certain factors rather than just adjustments that would have the effect of increasing in-use emissions. For example, a positive temperature adjustment in Washington State may be appropriate because the average mean temperature is less than the ISO design temperature employed by manufacturers. Greater efficiency (and a lower GHG emission rate) is achieved when ambient temperatures are less than ISO design conditions, and so, if there is to be a correction, it should be to lower the emission rate.	B06	Performance adjustments for environmental operating conditions can be positive or negative and are highly dependent on location and when a power plant is operated. Generally the positive adjustment factors are smaller than the negative adjustment factors. The Commerce environmental adjustment factor is a composite (negative and positive aspects considered) factor.
SV-25	Heat rate values reported by turbine manufacturers to GTW are inherently conservative resulting in a higher EPS	B06	Commerce has received comments from other stakeholders that GTW heat rates are too optimistic. Commerce will continue to use the heat rates reported in the GTW Handbook.
RC: Comments regarding the consideration of reliability & cost (RCW 80.80.040(11))			
RC-01	Commerce's consideration of cost & reliability should include more extensive analysis.	A11 p.3, A12 p.2, A15 p.2, A19 p.2, A19 p.12, B02 p.2, B02 p.3, B02 p. 4, B02 p. 5, B02 p. 7	The consideration of reliability and cost will make an earnest evaluation of reliability and cost impacts but with simple, top-down methodologies. Commerce is receiving peer review (as required by law) from WECC, BPA and other entities with experience in electric system analysis. RCW 80.80.040(11) states that "in adopting and implementing the greenhouse gas emissions performance standard, the department of commerce...shall consider the effects of the greenhouse gas emissions performance standard on system reliability and overall costs to electricity customers." Commerce has done so, and is furthermore documenting such consideration in writing.
RC-02	The contribution CCCTs make towards system reliability is not necessarily proportional to the contribution CCCTs make to delivered energy. CCCTs' role as backup to both renewable generation and hydropower, as well as its role as a seasonal resource, is undervalued in the consideration.	A11 p.6, A12 p.3, A19	Taken collectively, the region's CCCTs provide 9% of Washington's electricity (averaged over the last 10 years) and do provide the valuable services that the commenters describe. However, it is Commerce's responsibility to consider the marginal effect of a change in EPS, not to consider the value of the state's entire CCCT fleet. We found the change in EPS to affect the regulatory environment for at most 0.6% of the state's electric generation. No action.
RC-03	Cogeneration units are not exempt from the emission performance standard statute.	A19 p.2	The footnote in the Reliability and Cost Consideration has been clarified.

#	comment summary	sources	Commerce response
RC-04	Commerce inaccurately dismissed simple cycle plants as not subject to the rule.	A19	The EPS pertains to baseload generation. While there may still be some older simple cycle plants permitted as baseload plants, they are not operated as baseload, and have the option of re-permitting as peaking plants. Due to their lower efficiency and high operating costs, it is likely that new simple cycle plants will be permitted as peaking and not baseload. In addition, there will be no issue with compliance if those simple cycle plants are utility owned and service that utility's load. If an individual utility has a unique situation in which a simple cycle plant needs to serve baseload power under duress, then the utility may apply for an exemption under one of the clauses available in RCW 80.80.060 and 80.80.070. No action.
RC-05	Lowering the EPS will discourage or prohibit financing of future plant improvements or construction.	A12, A19	Simply lowering the EPS from 1100 to 980 lb/MWh does not change the legal context of financing decisions. The EPS law has been in place for five years, during which Commerce has found no evidence of the law impacting generator financing decisions. Financiers may find the EPS law of little concern for the following reasons: a. Utilities and IPPs are selecting the cleaner and more efficient CCCTs due to the federal BACT requirement. b. Utilities and IPPs are selecting the cleaner and more efficient CCCTs because they are less expensive on a per kilowatt capacity basis. (See Reliability & Cost Consideration supporting information S2.) c. Future EPS updates will only be incrementally lower since CCCT efficiency gains, the primary factor the will drive a lower future EPS, are anticipated to be small over the next 5 years. (See Reliability & Cost Consideration supporting information S6.) The Reliability & Cost Consideration has been amended to include this additional consideration.
RC-06	Any upgrade to a CCCT will trigger the EPS regardless of whether the contracting status changes.	A19	Per the definition of upgrade in the law, only upgrades that result in an increase in fuel usage (heat input) would trigger the EPS. Upgrades for unit relibility or to produce more electricity without additional fuel usage would not trigger the EPS. No action.
RC-07	WUTC will not consider prudent short term contracts resulting from changes to the EPS.	A11 p.7, A19 p.4	Most of the existing baseload CCCT generation is compliant with the proposed update and owned (not contracted) by utilities. Only a very small amount of supply may fall under new, short-term contracts as a result. For this small amount, WUTC will consider prudency in a reasonable legal context including the adjusted EPS. While there may be a small change to consumer cost as a result, Commerce does not find it sufficient to challenge our legal obligation to adjust the EPS. No action.
RC-08	Financiers will not provide lending because a foreclosure would transfer ownership to the lender and trigger the EPS.	A19 p.5	Since a lender would be financing either the purchase of an existing CCCT or the construction of a new CCCT, the EPS would already have been triggered by the borrower's action. Hence, the lender will already have vetted that the facility is safely below the EPS (per Commerce's response to comment RC-05) for the purpose of making the loan to begin with. No action.
RC-10	Turbine supply restrictions (due to high global demand or long lead times) will make the requirement to purchase turbines in the top half of the market a financial and/or operational hardship.	A19 p.5	The turbine market includes a wide selection of turbine models, and manufacturers cooperate with buyers to meet their needs on a purchase-by-purchase basis. The survey identified 19 basic models; restriction to half of these (and probably more than half once manufacturers' ability to customize is taken into account) is unlikely to be prohibitive. Furthermore, U.S. EPA BACT requirements will push buyers of new machines toward more efficient models anyway. No action.

#	comment summary	sources	Commerce response
RC-11	Commerce assumes CCCTs operate at optimal conditions and does not examine the positive impacts on grid reliability that is a result of their frequent startups and ramping as is necessary to integrate intermittent resources. Operating in this fashion moves CCCTs towards noncompliance.	A19, A12 B02 p. 6	The EPS calculator does incorporate the effects of frequent startup/shutdown and ramping on overall emission rates, one of the operational adjustment factors that the technical subgroup was involved with setting. No action.
RC-12	Commerce wrongly assumes that violations of the EPS are not subject to financial penalties. Citing 173-407-240 (1) WAC and by reference RCW 70.94.	A19	Commerce agrees. The Reliability & Cost Consideration has been amended to reflect this.
RC-13	Commerce's assessment incorrectly assumes that independent power producers (IPPs) are not impacted by RCW 80.80.	A18 p.2, A19 p.6	Commerce agrees. RCW 80.80.040(3)(b) may restrict the operation of IPP baseload generators commencing operation in Washington State after June 30, 2008. Commerce is updating its Reliability & Cost Consideration to reflect this. Operations of the existing IPPs will be unaffected by the proposed change in EPS. Compliance with the EPS would only be triggered by (1) entering into a power purchase agreement that is at least 5 years in length, (2) a change in ownership, or (3) an upgrade that results in an increase in fuel usage.
RC-14	Commerce does not consider a scenario where there is a change in ownership share at an investor owned CCCT.	A19 p.7	Commerce has added this scenario to the Reliability & Cost Consideration.
RC-16	The costs reported in Figure 1 [Supporting Information S2 in the final Consideration published November 7] are not representative of installed costs for real turbine installations.	A19 p.8	The values plotted are the nominal costs of the machines themselves. Site or region specific costs (such as land, water treatment, etc.) are relatively independent of the CCCT chosen and hence should be excluded from the analysis. Operating costs typically go down with decreasing GHG emissions rate because a lower GHG emissions rate is caused by lower fuel consumption, so excluding them errs on the side of financial safety. No action.
RC-18	The R-squared value in Figure 1 [Supporting Information S2 in the final Consideration published November 7] is low and suggests a weak or meaningless correlation.	A19 p.11	The purpose of the figure is to demonstrate that a lowered EPS will have little effect toward raising consumer costs. That is, it should demonstrate that there is NOT an ANTIcorrelation between GHG emissions rate and price. A positive correlation of any strength, even weak, offers that assurance. Nevertheless, Commerce has improved the quality of the data graphed by omitting four turbine models that are no longer frequently purchased, which raised the positive correlation even further, to R2=0.874.
RC-19	Commerce should not rely on the UTC and utility board exemption clauses to avoid a comprehensive reliability & cost analysis.	A19 p.11 B02 p. 4	The Reliability & Cost Consideration makes an earnest evaluation of reliability and cost impacts with simple, top-down methodologies, consistent with the law (see response to comment RC-01). Commerce does not have the capacity nor the underlying, proprietary data to conduct an analysis that treats impacts to individual utilities. The exemption clauses are important and meaningful safety valves for extraordinary circumstances that could impact a single utility. No action.
RC-25	The Reliability and Cost Consideration fails to consider whether a lower EPS would effectively strand much or all of the existing fleet of CCCTs and cause the construction of new compliant CCCTs that otherwise would not be needed.	A11 p.5, A11 p.8, A15 p.2 B04 p.3 B02 p.1	The Reliability & Cost Consideration now considers the impact of the EPS adjustment on the entire regional fleet (supporting information S4b). The great majority of the existing fleet emits below the proposed standard, and also below a hypothetical standard forecast for 2017.
RC-26	Commerce seems to assume that utilities could and even should ignore statutory requirements (law does not impose direct financial penalties, prevent short-term contracts,….)	A11 p.9	This is not Commerce's intention. Language has been adjusted to remove any implication that utitilies should violate statutory requirements. Commerce does not view a choice to sell power on short-term contracts as violating statutory requirements, since this is clearly allowed in the law.

#	comment summary	sources	Commerce response
RC-27	The EPS impacts other portions of the utility portfolio - besides CCCTs, presumably other baseload generation such as coal.	A12 p.2	The commenter is correct that other types of generation, especially coal, is impacted by the EPS. However, Commerce's responsibility is to consider the marginal impact of lowering the EPS from the current value to the proposed value. All coal-fired generation available to Washington is already above the current value, so there is no marginal impact due to lowering the value. Hydropower, nuclear, renewables, and non-baseload (peaking) gas-fired generation are entirely unaffected by the EPS. No action.
RC-28	The reliability and cost consideration should consider the impact of the EPS change on utilities' integrated resource plans.	A12 p.2 B02 p.7	Commerce agrees. The Reliability & Cost Consideration now includes (1) an estimate of the next EPS revision in 2017 and (2) a chart of typical turbine capital cost versus GHG emission rate. The estimate of the 2017 EPS revision, which will cover compliance years 2017-2022, demonstrates that the majority of CCCTs in the Northwest's fleet and on the market will be compliant for at least the next decade. The chart of capital costs demonstrates that lower emission rates do not correlate to higher capital costs so the lowered EPS is unlikely to have any profound impacts on integrated resource plans.
RC-30	It is not reasonable for utilities to rely on short-term contracts.	A12 p.3 B02 p.7	The lowered EPS does not force a utility to enter into short-term contracts. Commerce is simply observing that facilities exceeding the EPS may still engage in the spot market or on contracts up to 4.9 years in length. All utilities may continue planning with long time horizons in mind and purchasing on long term contracts as long as those contracts are with compliant facilities. No action.
RC-32	Commerce's consideration of long vs. short-term contracts is insufficient.	A12, A15, A19 p.7	Commerce has partnered with UTC to gather actual data for investor-owned utilities' CCCT contracts and their lengths. The share of CCCT generation under long-term contract is summarized in supporting information S5 of the Reliability & Cost Consideration released on November 7.
RC-33	Agreement with Commerce's findings that an updated standard in the range of 925-975 lb./MWh will not materially affect cost or reliability	A14 p.2, A16 p.3, A18 p.1, B01 p.1	Comment acknowledged.
RC-35	The reliability & cost consideration incorrectly implies that there is no cost for utilities to comply with the EPS.	A12 p.4-5, A18 p.2	Commerce agrees. The language has been amended.
RC-38	Existing long-term contracts will be threatened if the generator is upgraded to increase fuel consumption, or if the generator's ownership changes.	A19 p.4	A Washington utility holding a long-term contract with a generator affected in this way remains in compliance until the contract expires. If the change in generator ownership causes expiration of the contract, that is a consequence unrelated to the EPS. No action.
RC-39	Commerce needed greater engagement with other state agencies having appropriate technical expertise, such as the Utilities and Transportation Commission ("UTC"). The UTC is the primary economic regulator for investor-owned utilities, but their involvement in the determination of the EPS was limited. RCW 80.80.040(11) specifically requires consultation with the UTC and others to "consider the effects of the greenhouse gas emissions performance standard on system reliability and overall costs to electricity customers."	B05 p.3	Commerce consulted with the UTC during the Survey development, the Reliability and Cost Consideration, and at other points during the rulemaking.

#	comment summary	sources	Commerce response
RC-40	Adjusting the EPS will have complicated effects on the energy sector, Washington electric consumers, and potentially Western electricity markets. Commerce did not adequately or fully address the numerous ways in which a lowered EPS rate will impact system reliability, load service and utility resource planning requirements and processes. Moreover, the assessment did not adequately foresee the impact a more stringent EPS will have on electricity consumer costs. A better approach to building a reliability and cost analysis would be to account for a range of potential outcomes. For these reasons, Our Companies disagree with the results of Commerce's cost and reliability analysis.	B05 p.5 B04 p.2 B02 p. 5	In its Reliability and Cost Consideration Commerce demonstrated that 1. most regional CCCTs operate well below the proposed EPS value, 2. new CCCTs have even lower emissions and 3. those plants that emit above the proposed EPS are owned by large utilities, and can serve utility load or sell into the short-term market without penalty. Commerce therefore concluded that the impacts on system reliability and costs to customers are minor. Furthermore, Commerce requested detailed and documented information from utilities supporting their claims that the EPS would negatively impact system reliability and costs to customers.
RC-41	Commerce should not attempt to predict the circumstances in 2017/2018 for the next update of the EPS and should remove these references from the Reliability and Cost consideration.	B01 p.1	Commerce agrees. If Commerce chooses to issue a revision of the Reliability and Cost Consideration then the 2017 analysis will be removed.
RC-42	The RCA states that CCCTs currently serve 9.4% of Washington's electric load and concludes that the remaining approximately 90% of the resource mix will ensure system costs and reliability regardless of the EPS's effects. This is not explained or supported.	B02 p.6	The Reliability and Cost Consideration does take for granted that the portion of the resource mix unaffected by the change in EPS, will be available to provide electricity services to the same extent it was before. We find this assumption to be self evident. No action.
RC-43	Commerce's draft document states that the price penalty for a 4.9 year contract vs a 10 year contract will be minimal or non-existent; PSE does not understand the basis for this statement and it is contrary to PSE's experience - the shorter the contract, the shorter the period to spread costs over.	B02 p.9	The commenter is apparently referencing an early draft of the Reliability & Cost Consideration; this statement was removed in August of 2012. No action.
PL: Comments regarding the legal context & rulemaking process			
PL-01	Stakeholders received insufficient notice of pre-proposal inquiry activities.	A08, A10 p.1	The Pre-proposal Statement of Inquiry was published in the Washington State Register on March 7, 2012. In response to stakeholder concerns about adequate notification, Commerce delayed the process to offer all stakeholders adequate opportunity for input.
PL-02	The requirements under RCW 80.80.050 to report a survey of turbines to the legislature, and to adopt by rule the average available greenhouse gas emissions output, should be interpreted as separate requirements.	A10 p.1-2, A11 p.3 B05, p.1	Commerce finds the plain language of RCW 80.80.050 to indicate that the average available greenhouse gas emissions output is that average determined from the survey. Furthermore, definition 80.80.010(3) states, "'Average available greenhouse gas emissions output' means the level of greenhouse gas emissions as surveyed and determined by the energy policy division of the department of commerce under RCW 80.80.050." No action.
PL-08	Lowering the EPS will force in-state IPPs out of business, reducing grid reliability and increasing cost to consumers.	A08 p.2	In-state IPPs will not be forced out of business, but they will be more restricted in the types of new generating equipment they may purchase. They may continue to operate any equipment in their ownership as of June 30, 2008, but if any of that equipment has an emission rate above the EPS their future contracts with Washington utilities will be under 5 years in length. These appear to be intended consequences of the law. No action.
PL-10	Commerce should consider the environmental impacts of lowering the EPS.	A11 p.4, A16 p.2, B02 p.3	RCW 80.80 is itself, in intent, an environmental law. It is not Commerce's responsibility to further evaluate the law's environmental consequences. No action.
PL-11	Commerce should not adjust the EPS before the Legislature can consider the report on need, applicability and effectiveness required under RCW 80.80.080.	A11 p.2, B02 p.2, B03 p.5, B04 p.1	The law set up the Legislative report by the Department of Ecology, and the adjustment of the EPS standard, with the same time schedule and due dates to the legislature. Ecology will submit this report to the Legislature when or before the Notice of Proposed Rulemaking is published.
PL-12	Updating the standard is required by law and not voluntary	A14 p.1, A17 p.1	Comment acknowledged.
PL-13	No reason for further delay; process needs to be expedited.	A14 p.3, A17 p.6, A18 p.1	Commerce is moving forward at the maximum rate possible based on available staffing and the complexity of answering all stakeholders' concerns.
PL-15	There is clear need and value in maintaining and updating the Washington EPS over and above current federal requirements.	A17 p.2, A18 p.2	Commerce agrees. See response to Comment PL-22.

#	comment summary	sources	Commerce response
PL-16	The claim that the revised EPS should not be drawn from the survey of new and commercially available CCCTs is fallacious.	A18 p.2	Commerce agrees. See response to Comment PL-02.
PL-18	Commerce's voluntary decision to review reliability and cost is welcome.	A14 p.2	Comment acknowledged.
PL-19	The guidance in the law for Commerce to "consider" reliability and cost does not require an extensive technical and econometric evaluation.	A16 p.2	Commerce agrees. The consideration of reliability and cost will make an earnest evaluation of reliability and cost impacts but with simple, top-down methodologies. Commerce is receiving peer review (as required by law) from WECC, BPA and other entities with experience in electric system analysis.
PL-21	"Baseload electric generation" as defined in process documents or as defined in WAC is not consistent with the definition in RCW 80.80.	A20 p.3	In 2013 Ecology will be making changes to WAC 173-407 to incorporate the updated EPS and to reflect changes to RCW 80.80 that have been enacted since 2008. This issue will be addressed within that rulemaking.
PL-22	The EPA Tailoring Rule makes the EPS irrelevant.	A11 p.2 B02 p. 2	The U.S. EPA Tailoring Rule applies only to facilities exceeding certain size thresholds; does not apply to power contracted by utilities; and applies a best available control technology ("BACT") methodology on a case-by-case basis rather than a uniform quantitative standard. Commerce finds the EPA Tailoring Rule to be materially different from the EPS. No action.
PL-23	The proposed federal emissions performance standard makes the EPS irrelevant.	B04 p.3, B05 p.2	The proposed federal standard is not yet law. If it does become law it will affect only new plants, while Washington's EPS affects existing plants and contracts as well, making it materially different from the federal standard. No action.
PL-24	Rather than interpreting what "baseload electric generation" means as "allowed for by current permits", the WAC definition should be corrected as part of this process. For existing power generation facilities the definition should allow evaluation of the actual operating history of a plant as the method of determining the owner or operator's intent, since the GHG law has been in place for 5 years now and years of operating data under the law is available for existing units.	B03 p.4	In 2013 Ecology will be making changes to WAC 173-407 to incorporate the updated EPS and to reflect changes to RCW 80.80 that have been enacted since 2008. This issue will be addressed within that rulemaking.

#	date received	submitter
A01	04/02/12	PacifiCorp
A02	04/04/12	Avista
A03	04/05/12	PSE
A04	04/10/12	Northwest Energy Coalition, Climate Solutions & Washington Environmental Council
A05	*04/11/12 stakeholders meeting*	
A06	04/16/12	Association of Washington Business
A07	04/17/12	Industrial Customers of Northwest Utilities
A08	07/24/12	Tenaska
A09	07/27/12	PSE
A10	08/02/12	Tenaska
A11	08/02/12	PSE
A12	08/03/12	Avista & Pacificorp
A13	08/03/12	Washington Public Utility Districts Association
A14	08/22/12	Climate Solutions
A15	08/27/12	PSE
A16	08/27/12	Washington Environmental Council
A17	08/28/12	Natural Resources Defense Council
A18	08/28/12	Northwest Energy Coalition
A19	08/28/12	Tenaska
A20	06/13/12	TransAlta
B01	12/03/12	Washington Environmental Council
B02	12/03/12	Puget Sound Energy
B03	12/03/12	TransAlta
B04	12/03/12	Association of Washington Business
B05	12/03/12	PacifiCorp-Avista
B06	12/03/12	Sierra-NRDC